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**NSLS and NSLS-II
User Access Policy**

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ACRONYMS

ALD	Associate Laboratory Director for Light Sources Directorate
BAC	Beam Time Allocation Committee
BES	Basic Energy Sciences
BHSO	Brookhaven Site Office
BNL	Brookhaven National Laboratory
DOE	U.S. Department of Energy
ES&H	Environment, Safety and Health
NSLS	National Synchrotron Light Source
NSLS-II	National Synchrotron Light Source-II
PRP	Proposal Review Panel
PRT	Participating Research Team
SAC	Light Sources Directorate Science Advisory Committee

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**NSLS AND NSLS-II
USER ACCESS POLICY**

APPROVALS

Approval:

Steven Dierker
Associate Laboratory Director for Light Sources
Brookhaven National Laboratory

Date

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CHANGE SYNOPSIS

Revision	Effective Date	Summary of Change

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NSLS AND NSLS-II USER ACCESS POLICY

1. SUMMARY:

The Light Sources Directorate at Brookhaven National Laboratory operates the National Synchrotron Light Source (NSLS) facility and is constructing the National Synchrotron Light Source II (NSLS-II) facility. The NSLS facility has 62 operating beamlines that support a large user program that carries out research in such diverse fields as biology and medicine, chemistry and environmental sciences, physics, and materials science. The NSLS-II facility will be a highly optimized 3rd generation synchrotron that will provide ultra-high brightness and flux as well as exceptional beam stability over a similarly broad range of photon energies from infrared to hard x-rays. When fully built out, NSLS-II will be able to accommodate at least 58 beamlines for scientific programs, with additional beamlines possible through canted insertion devices and multiple hutches.

This policy provides a concise overview of the mechanisms by which users access beam time at NSLS and NSLS-II. This policy contains some significant differences from the policy previously in effect at NSLS. Covering both of these in a single user access policy promotes a unification of approach between the two facilities and is expected to ease the transition from one to the other as NSLS ceases to operate and NSLS-II begins operation. Further details on the implementation of this policy are contained in the NSLS and NSLS-II User Access Procedures document.

Under this policy, there are three regular modes of user access to beam time at NSLS and NSLS-II: General User Access, Partner User Access, and facility beamline staff access. The principle underlying each of these processes is scientific peer review that is fair, clear, and expedient; sensitive to the needs of users; and recognizes the contributions of users in improving the overall scientific program.

There is also one special mode of user access in effect only at NSLS, that of the Participating Research Team (PRT). Existing PRT agreements that are in effect at the NSLS when this new policy takes effect will be allowed to continue at NSLS as long as NSLS operations continues. However, no new PRTs will be allowed at NSLS and PRTs will not exist at NSLS-II.

General User access requires peer review of proposals through a central review process managed by the Light Sources Directorate. For those situations that cannot be accommodated through the General User proposal system, Partner User Proposals will be considered. Partner User proposals require scrutiny by the Light Sources Directorate Science Advisory Committee (SAC) and Light Sources Directorate management. Access as members of a Partner User group or as a member of facility beamline staff is also subject to periodic peer review by the SAC.

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2. User Access Modes

2.1 General User Access

2.1.1 Overview

General Users are investigators who apply for, and are awarded, beam time through the Light Sources Directorate General User program, which is a centralized, online, peer-review proposal process that is managed by the Light Sources Directorate. Successful proposals are awarded beam time on NSLS or NSLS-II beamlines. All general user beam time on every beamline in the General User program is allocated through the Light Sources Directorate General User proposal process.

Prospective General Users submit proposals requesting beam time on a specified beamline. Each proposal is valid for two years. As part of the process, prospective general users requesting multiple run-cycle beam time commitment may apply for multi-cycle status in the general user proposal. All general user proposals are evaluated by beamline staff for feasibility and then peer-reviewed and rated by one of several Proposal Review Panels (PRPs).

PRPs are peer-review groups composed of scientific peers, primarily external to the Light Sources Directorate staff, and organized by technique or scientific discipline that cover broad range of basic and applied science including industrial applications and instrumentation and method development. The PRPs evaluate the scientific merit and technical feasibility of proposals, provide ratings for them, and make recommendations to a Beam Time Allocation Committee (BAC). The PRP recommendations include (a) how much total beam time should be allocated during the lifetime of the proposal, and (b) how that time should be distributed over one or more run cycles within its two year lifetime.

After a beamline feasibility review and review by a PRP, the final beam time allocations are made by the BAC guided by the recommendations from the PRP. Beam time awards can either be for a single run cycle or for multiple run cycles throughout the two year lifetime of the proposal. All General User proposals will be considered active until either: (a) the allocated beam time has been used, (b) they are withdrawn, or (c) two years have elapsed.

After review and award of beam time, General Users request beam time in each cycle for which they have been awarded beam time. The beamline is then responsible for scheduling the run time in coordination with the general user schedule. All beamlines will use a centralized scheduling system managed by the Light Sources Directorate.

2.1.2 Evaluation Criteria

Proposals are first evaluated by beamline staff for technical feasibility on the requested beamline.

If judged to be technically feasible, the peer review process will then evaluate the proposals in the following categories:

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- Scientific and/or Technical Innovation and Originality
- Scientific and/or Technical Importance
- Capability of Experimental Group and Quality of Past Performance Based on Track Record (Publications, Patents, Corporate Impact Statements)
- Experimental Plan and Technical Feasibility

These criteria are designed to recognize the value of both basic and applied research as well as encouraging the contributions of users that improve the overall scientific program. Examples of the latter might include contributing to the development of technical capabilities at the beamline, providing technical assistance and support for use of a sophisticated endstation that a user may be willing to let others access, etc.

2.1.3 Beam Time Allocation

The amount of user beam time available for hosting user experiments will be declared by each beamline prior to each run cycle. This beam time may be less than the accelerator operations hours due to the need to spend time either maintaining or upgrading the beamline. The use of accelerator operations hours by each beamline for such activities will be reviewed periodically by the SAC to ensure that it is appropriate and justified.

80% of the available user beam time averaged across all operating beamlines (excluding PRT beamlines at NSLS) will be allocated to General User proposals. Individual beamlines may have more or less than 80% of their user beam time allocated to General User proposals, so long as the average across the facility (excluding PRT beamlines at NSLS) is 80%.

The scores, recommended beam time allocation, and comments from the PRP are provided to a Beam Time Allocation Committee (BAC). The BAC determines (a) which proposals will be allocated time, (b) the amount of time to be allocated to each proposal, and (c) how that time will be distributed over one or more upcoming run cycles within its two year lifetime.

In awarding beam time, the BAC takes into consideration the following factors:

- proposal review ratings, beam time recommendations, and comments from PRPs
- special considerations (in support of outreach goals or for exploratory work)
- likelihood of success
- demonstrated need for NSLS/NSLS-II and beamline facilities

The BAC seeks a balance between adventurous, exploratory experiments and those with a clear expected result. In allocating beam time, the BAC will be guided by the beam time allocation that was recommended by the PRP.

For highly-rated proposals requesting multi-cycle status, the BAC makes the determination whether multi-cycle status should be granted based on meeting one or more of the following additional criteria:

- Contribution of apparatus or resources to bring a new experimental capability to facility users that is otherwise not available
- Development a new experimental capability or a new scientific application

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- Clearly demonstrated scientific and technical needs for guaranteed access for a single experiment over multiple cycles (e.g. effect of asthma medicine on lungs in live mice)

General users receiving multi-cycle beam time allocations are not expected to provide support to other general users who may use equipment they contribute or develop.

The optimum distribution of beam time between single-cycle allocations, multi-cycle allocations, and rapid access allocations is expected to vary depending on the area of science and the nature of the technique. The total amount of general user beam time allocated in any cycle for multi-cycle access will not exceed a specified percentage of the total available general user time for that beamline for that cycle. This is to ensure that a reasonable amount of beam time will always be available for new proposals that are highly rated and for rapid access proposals. The target distribution of beam time among these types of access will be set on a beamline by beamline basis based on recommendations by the beamline staff and requires the approval of the SAC.

For each cycle that users wish to use beam time under an approved general user proposal, they must submit a beam time request indicating the desired number of days. If the proposal has already received beam time in one or more cycles, the beam time request must also include a brief statement of progress resulting from those previous beam time awards. This progress report is reviewed by the BAC. If the report is not satisfactory, the BAC may reduce or even revoke future beam time allocations.

2.1.4 Rapid Access

The rapid access process provides an option for short-turnaround assignment of general user beam time for urgent needs that arise between the formal review and allocation cycles.

Submitted proposals requesting rapid access are considered on a continuing basis and are not subject to evaluation cycle deadlines. To permit timely access, the proposal is sent to the requested beamline at the same time it is sent to the reviewers. The beamline may choose to award beam time and schedule the user's visit before the review is completed. If so, the normal review process will still take place, with the conclusions evaluated retrospectively. The beamline provides a list of scheduled rapid-access proposals to the BAC. The BAC provides oversight of the rapid-access general user proposal process.

2.2 Partner User Access

There may be situations where researchers wish to contribute to the on-going development of a substantial portion of a beamline and are also willing to contribute in the support of general users on the beamline. Just one of many possible examples is contribution of a sophisticated endstation that cannot be simply removed from the beamline and is made available to General Users so that most experiments on the beamline use this endstation. It is expected that contributions of such magnitude will require the contribution of one or more staff that will be present at the beamline and will participate in the operation and on-going development of the beamline. In cases like this, the researchers can apply to become Partner Users on the beamline.

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In recognition of their substantial and integral contribution to both the development and operation of the beamline, Partner Users would have a role in stewarding, together with the facility beamline staff, the future evolution of the beamline, including, for example, participating in decisions on future upgrades or improvements in the technical capabilities of the beamline which may be made to improve the support for targeted scientific areas. Partner users would also share the responsibilities, through contributed staff, in beamline operations in support of general users at the beamline.

Partner User staff may share, together with the facility beamline staff, in the use of the 20% of beam time (averaged over all beamlines but excluding PRT beamlines at NSLS) that is not allocated to the General User Program for their own discretionary scientific research. Partner User staff may also apply for General User time on any beamline, including ones on which they are Partner Users.

Partner User proposals will be reviewed by the SAC. The criteria for evaluation of Partner User proposals are positive impact of the partnership on General Users through participation in the development and operation of a beamline, including contributing to the support of General Users on the beamline.

The rights and obligations of the Partner User will be negotiated on a case by case basis and spelled out in a Partner User Agreement. The Partner User Agreement will, among other things, define the responsibilities of the Partner User in developing and operating the beamline, the governance model for how the Partner User participates in decisions regarding the stewardship of the beamline, and how beam time is distributed between Partner User staff and facility beamline staff. The terms of the partnership agreement may extend up to five years with the possibility of renewal. Light Sources Directorate management makes the final decisions on the approval of Partner Users and the terms of the Partner User Agreement. Assessment of the effectiveness of Partner User programs is also provided by the SAC, which evaluates their performance at least once every three years.

2.3 Beamline Staff Access

20% of the available user beam time (averaged across all beamlines but excluding PRT beamlines at NSLS) will be shared between facility beamline staff and any Partner Users (if any exist on the beamline) for discretionary scientific research. Additionally, all beamline staff may also apply for General User time on any beamline, including the one for which they are responsible. The effectiveness of beam time usage by facility beamline staff is assessed periodically by Light Sources Directorate management and by the SAC.

3. Proprietary User Access

Beam time usage at NSLS and NSLS-II falls into two categories: proprietary and nonproprietary.

The technical data derived from results of experiments conducted using NSLS or NSLS-II are, in general, expected to become part of the public domain and with certain rights to the data (as defined in an institution's User Agreement) reserved by the U.S. government.

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Researchers may wish to retain certain intellectual property rights to “proprietary data” resulting from “proprietary work” performed at NSLS or NSLS-II. Proprietary work is work done with the intention to designate the results as proprietary data. Proprietary data is technical data that embody trade secrets developed at private expense, such as design procedures or techniques, chemical composition of materials, or manufacturing methods, processes, or treatments, including minor modifications, thereof, provided that such data:

- are not generally known or available from other sources without obligation concerning their confidentiality;
- have not been made available by the owner to others without obligation concerning their confidentiality; and
- are not already available to the Government without obligation concerning their confidentiality.

A “proprietary sample” is one that is the subject of proprietary work.

Researchers from an institution wishing to conduct such proprietary work using NSLS or NSLS-II must execute a Proprietary User Agreement with BNL and pay for the proprietary beam time via a Proprietary User Account with BNL. Proprietary beam time is all beam time used by a user during which NSLS or NSLS-II is delivering user beam and the user is using an NSLS or NSLS-II beamline facility for any activity (such as experiment setup, mounting and aligning samples, screening samples, and data collection) that is part of the work that is, or is intended to be, proprietary.

If an experimenter seeks to keep the proprietary rights to data resulting from work performed at NSLS or NSLS-II, then prior to the start of the experiment, the experimenter must declare the beam time to be proprietary as part of the proposal and/or safety approval process. Each proposal for beam time must be wholly for either proprietary or nonproprietary beam time. All beam time assigned under a proprietary proposal will be charged unless the storage ring or beamline is not available to the user. The ultimate decision for proprietary time allocation at any beamline resides with the NSLS or NSLS-II management, taking into account feedback from the beamline staff, the PRP, and the BAC.

4. Participating Research Team Access (NSLS Only)

Participating Research Teams (PRTs) is a special mode of access that is only available at NSLS for groups who already have an existing PRT agreement with NSLS at the time that this new User Access Policy takes effect. No new PRTs will be allowed at NSLS and PRTs will not exist at NSLS-II. PRT beamlines are excluded when performing the facility averages of beam time to determine how much beam time should be awarded as part of the General User program to achieve the target of 80% (on average) GU time.

PRTs are obligated to provide at least 25% of the available beam time for use by General Users and to provide training and assistance to General Users who are allocated beam time on their beamline. In exchange, the PRT has complete control over the beamline and manages its scientific program for up to 75% of the remaining available beam time for a period of up to three years, with the possibility of renewal as long as NSLS operations continue. In any given cycle,

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PRTs may choose to give back a fraction of their own beam time to the GU program. In this event, GU awards will first consider unallocated peer-reviewed proposals and then unallocated rapid-access proposals. PRT members may not apply for General User beam time on their own beamline, but they may apply for GU beam time on other beamlines. PRT proposals will be reviewed and approved by the Scientific Advisory Committee.

A Memorandum of Understanding must be established between PRT members describing the contributions and responsibilities of each PRT member. An Agreement must also be established between the PRT and NSLS to describe the privileges and obligations of both parties. Items specified by the Agreement include allocation of beam time and laboratory space to the PRT, the obligation of the PRT to maintain and operate the beamline and its endstations, to staff the beamline, to make improvements in facilities, to work jointly with NSLS to promote use of the PRT beamline by GUs, to make beamline facilities accessible to GUs at no charge, to support GUs accessing the beamline facilities, and to agree to follow NSLS policies regarding equipment damage and completion of the PRT program. The agreement will remain in effect until its expiration date unless revoked by the NSLS Chair with approval of the SAC.

PRTs have an additional responsibility to provide safety training and oversight to ensure that PRT members and General Users operating at their beam lines or with their equipment understand and comply with applicable safety requirements.

5. Contributing User and Method and Instrument Development Team Access (NSLS Only)

Groups who currently have a Contributing User and Method and Instrument Team are expected to be accommodated in this new User Access Policy as either General Users or Partner Users. Contributing User and Method and Instrument Team agreements that are in place at the time this new policy takes effect will continue under their original terms but will not be renewed. In addition, no new Contributing User or Method and Instrument Team agreements will be executed at NSLS.